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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/566,907

02/03/2006

Eckhard Heinrich Erich Otto Friese

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EXAMINER

WALBERG, TERESA J

ART UNIT

PAPER NUMBER

3744

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/566,907	<b>Applicant(s)</b> FRIESE ET AL.	
	<b>Examiner</b> Teresa J. Walberg	<b>Art Unit</b> 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 March 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/3/06</u> .  | 6) <input type="checkbox"/> Other: ____.                          |

### DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 6, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Brucher (6,148,908).

Brucher discloses an apparatus and process for cooling hot gas (Fig. 1) including a vessel (12) with a cooling medium compartment (Fig. 4), an inlet to supply fresh cooling medium and an outlet for discharge of used cooling medium (18, Fig. 4), the vessel having an inlet and an outlet for cooled gas (22, 23), at least one heat exchange tube (11 in Fig. 4) connecting the inlet and outlet (22, 23), the tube being mounted in a tube plate (Figs. 2 and 4), means for extracting a volume of the cooling medium from the compartment (upper tube 18 in Fig. 3), the upstream end of the tube being provided with a cooling means (Fig. 4), to supply a mixture of the extracted cooling medium and part or all of the fresh cooling medium as supplied to the vessel along the exterior of the upstream end of the tube (Figs. 2 and 3), an annular sleeve (13 in Fig. 4) being positioned around the upstream end of the heat exchange tube (11) and the upstream end being mounted in a tube sheet (Fig. 4), the annular sleeve having an opening (17 in Fig. 4) to allow the mixture of extracted cooling medium and part of all of the

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fresh cooling medium to enter and an outlet opening (15) fluidly connected to the cooling medium compartment (Fig. 4).

3. Claims 1, 6, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Richter (3,915,224).

Richter discloses an apparatus and process for cooling hot gas (see figure) including a vessel (1) with a cooling medium compartment (see figure), an inlet (L1) to supply fresh cooling medium and an outlet for discharge of used cooling medium (outlet at left upper portion of tank 1 in figure), the vessel having an inlet and an outlet for cooled gas (see figure), at least one heat exchange tube (4) connecting the inlet and outlet (see figure), the tube being mounted in a tube plate (see figure), means for extracting a volume of the cooling medium from the compartment (L in figure), the upstream end of the tube being provided with a cooling means (5), to supply a mixture of the extracted cooling medium and part or all of the fresh cooling medium as supplied to the vessel along the exterior of the upstream end of the tube (see figure), an annular sleeve (5') being positioned around the upstream end of the heat exchange tube (3) and the upstream end being mounted in a tube sheet (see figure), the annular sleeve (5') having an opening to allow the mixture of extracted cooling medium and part of all of the fresh cooling medium to enter and an outlet opening fluidly connected to the cooling medium compartment (see figure).

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richter (3,915,224).

Richter discloses an apparatus and process for cooling hot gas as claimed with the exception of the ratio of the fresh and extracted cooling medium.

However, it would have been obvious to one of ordinary skill in the art to use any desired ratio based on the intended use of the device and the desired output temperatures.

6. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richter (3,915,224) in view of Schuurman (4,029,054).

Richter discloses an apparatus and process for cooling hot gas as claimed including a horizontal duct (2 in Figure). But does not disclose means to supply part of the fresh cooling medium to an elevated portion in the vessel.

Schuurman discloses a hot gas cooling device including means (9 in Fig. 1) to supply part of the fresh cooling medium to an elevated portion in the vessel (4). It would have been obvious to one of ordinary skill in the art to provide means to supply part of the fresh cooling medium to an elevated portion in the

cooling vessel of Richter, the motivation being to more easily adjust the temperature profile in the cooling vessel.

7. Claim 1 is objected to because of the following informalities: In claim 1, at line 3, "the" should be inserted before "main". Appropriate correction is required.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Casper et al, Jahnke et al, and Schotz are cited to show relevant cooling devices.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 571-272-4790. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Teresa J. Walberg/  
Primary Examiner, Art Unit 3744

/TW/